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Fabrication method for a matrix strip as a chip support element and for  
semiconductor packaging elements with the matrix strip  
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#Abstract:  
35 A matrix strip used as a chip support element has a first surface and a second  
surface and is constituted by a plurality of leadframes arranged in a matrix,  
connection portions disposed between the adjacent leadframes, and side portions.  
In addition, each leadframe has a chip pad and each connection portion is  
provided with at least an E-pin hole passing through the matrix strip.  
40 Fabrication method for semiconductor packaging elements with the matrix strip  
includes the following steps: providing the matrix strip having the first  
surface and the second surface and constituted by a plurality of leadframes  
arranged in the matrix, connection portions disposed between the adjacent  
leadframes, and side portions, in which each leadframe has a chip pad and each  
connection portion is provided with at least an E-pin hole passing through the  
45 matrix strip; adhering a tape to the second surface of the matrix strip, and  
placing individually the semiconductor chip onto the chip pad in order that the  
chip can be supported by the corresponding chip pad of the leadframe on the  
first surface of the matrix strip, and the semiconductor chip can electrically  
connect to the leadframe; encapsulating respectively the semiconductor chip such  
50 that the encapsulant can cover each semiconductor chip and the leadframe, but  
the second surface of the matrix strip remains uncovered; passing a plurality of  
E-pins through the E-pin holes from the first surface of the matrix strip in  
order to push the tape away from the second surface of the matrix strip; and  
conducting the singulation operation to form the individual semiconductor  
55 packaging element. Because the tape adhered to the matrix strip is pushed away  
by passing the E-pins through the E-pin holes to generate the air gap between  
the contact surface of the tape and the matrix strip, which further helps the  
detachment of the tape, the manufacturing process becomes much easier. Besides,  
it does not increase the difficulty during the manufacturing operation to add  
60 the E-pin holes in the matrix strip, so the production cost will not be changed.